

REMARKS

Request for Reconsideration

Applicants have carefully considered the matters raised by the Examiner in the outstanding Office Action but remain of the position that patentable subject matter is present. Applicants respectfully request reconsideration of the Examiner's position based on the above amendments to the claims and the following remarks.

Claims Status

Claim 1 has been amended to add the limitations of Claim 9 and Claim 9 has been cancelled. No new claims have been added and thus Claims 1-4, 6-8 and 10 are pending.

Invention

One of the novel aspects of the present Invention is that pearl polymerization is used in order to produce the copolymer. Pearl polymerization entails forming a dispersion of the monomers and dissolving the initiator therein, adding heat to polymerize the monomers and then

filtering and washing to obtain the copolymer. This aspect of the present Invention is brought out on page 14, lines 3-8.

There are a number of ways to polymerize the monomers, but Applicants have found that a number of these have drawbacks which make them unsuitable for the present Invention.

Applicants have found that bulk polymerization is unsuitable. Bulk polymerization produces polymers in large blocks, which must be pulverized before use thereby resulting in non-uniform shapes and sizes. Furthermore, local elevated temperatures during polymerization can occur which causes an increase in the molecular weight of the polymer. High molecular weight polymers are harder to handle and, thus, bulk polymerization has a number of drawbacks.

Solution polymerization, where the monomers and initiators are dissolved in the solvent and then polymerized, also have a number a number of drawbacks. Chain reactions can occur in the solvent which will result in lower molecular weight polymers, often referred to as

oligomers. Furthermore, unreacted monomers can remain with the product which result in unfavorable odor and stickiness due to bleed-out of the monomer. Typically, polymers obtained by a solution polymerization require purification using solvents. Such a method entails a large solvent waste and is, thus, also deemed to have a number of drawbacks.

Emulsion polymerization, a third way to form polymers, disperses the monomers in water with the aid of a surfactant to form submicron particles which are then polymerized. One of the drawbacks to emulsion polymerization, however, is that often the particles are too small to recover all the polymer produced and, because of the small size, washing of the polymers can be difficult.

Applicants have found that, with pearl polymerization, the particles are larger than the particles obtained with emulsion polymerization, uniform in size and shape and that they are easy to separate from water and wash with water. Thus, Applicants have found that by using pearl polymerization, suitable copolymers are formed for use with photothermographic dry imaging material. Respectfully, the

applied references do not teach nor suggest use of pearl polymerization to form the copolymer.

Rejection

The Examiner put forward two rejections. Claims 1-4 and 6-10 had been rejected as being anticipated by or unpatentable over Sampei while Claim 10 had been objected as being unpatentable over a combination of Sampei and Arimoto.

As noted above, neither Sampei nor Arimoto teach or suggest the use of pearl polymerization to form the copolymer used in the polymer layer of a photothermographic dry imaging material.

With respect to Sampei, he is silent on any specific manner within which to form his acrylated or methacrylated fluorinated compound.

With respect to Arimoto, Arimoto specifies that emulsion polymerization is preferred, see, for example, Column 15, line 26. It will be noted that Arimoto teaches emulsion polymerization, solution polymerization, bulk

polymerization, suspension polymerization, radical polymerization but prefers to form his material with emulsion polymerization. Thus, it is submitted that Arimoto teaches away from pearl polymerization because he teaches that his latex is preferably made by emulsion polymerization.

As noted above, Applicants have amended Claim 1 to particularly point out and distinctly claim that the copolymer is produced by pearl polymerization. Since the remaining Claims 2-4, 6-8 and 10 ultimately depend upon Claim 1, it is respectfully submitted that the claims are patentable over either one of the cited references taken alone or in combination.

Conclusion

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance and such action is respectfully requested. Should any extensions of time or fees be necessary in order to maintain this Application in pending condition, appropriate requests are

hereby made and authorization is given to debit Account #
02-2275.

Respectfully submitted,

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